

For each function find the domain, all intercepts, asymptotes, holes, symmetry and graph (on separate piece of paper).

$$1. f(x) = \frac{2x^2 - x - 6}{x - 2}$$

$$2. f(x) = \frac{x^2}{x^3 - 2x}$$

$$3. f(x) = \frac{x^3 + 2x^2 - x - 2}{x^2 - x - 2}$$

$$4. f(x) = \frac{x}{x^2 - 9} + 3$$

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

$$5. f(x) = \frac{4x^3 + 12x^2 - 16x - 48}{x^4 - 13x^2 + 36}$$

$$6. f(x) = \frac{4x^2 - 4x - 8}{x^2 - x - 2}$$

$$7. f(x) = \frac{x^3 - 2x^2 - 5x + 6}{x^2 + 3x + 2}$$

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

$$8. f(x) = \frac{2x^2 - 10x}{x^2 - 7x + 10}$$

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

$$9. f(x) = \frac{x^3 + 4x^2 - 5x}{x^4 - 13x^2 + 36}$$

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry:

$$10. f(x) = \frac{3x^2 - 3x}{x^2 + x - 12}$$

Domain:

x-int.:

y-int:

Vertical Asy.:

Horizontal Asy:

Slant Asy.:

Hole(s):

Symmetry: